

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
690 Walnut Ave. St. 150  
Vallejo, CA 94592-1133  
(707) 649-5453  
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007526**Date Inspected:** 15-Jun-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Xu Le Feng, Liu Yang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** TOWER**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**Outside Yard at Vertical Mill:**

The QA Inspector randomly observed ZPMC machine operators utilizing the vertical mill on the longitudinal stiffeners and skin plates on Lift 1 East. There was no milling being performed on Lift 2 East at this time.

The QA Inspector randomly observed that the welds in the copes attaching the 2 longitudinal stiffeners Skin Plate A on Lift 1 East, had been ground to try to remove porosity, slag and incomplete fusion observed during a previous random visual inspection. The QA Inspector randomly observed that the indications still remain. The attached photograph provides additional detail.

The QA Inspector randomly observed that no contract work was being performed in the interiors or on the exteriors of Lift 2 East Tower Shaft or Lift 2 South Tower Shaft.

**Heavy Equipment Shop Bay 11:**

The QA Inspector randomly observed ZPMC welder Cao Xiao Hua ID 056975, utilizing the Submerged Arc

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Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-2221-C-U2b-S-2 to weld the butt seams at WJ's SD1-A6002-4-6A, SD1-A6002-5-6A and SD1-A6002-6-6A. The QA Inspector randomly observed ZPMC Quality Control monitoring only interpass temperature and not recording any data. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder ID 066155, utilizing the Flux Cored Arc Welding (FCAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2231-B-U3-S-1 to weld the butt seams at WJ's ESD1-FDSA4-2D/D-37B, 23B and 9B on Lift 4 East Skin Plate D. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector performed a 100% Visual Testing (VT) Inspection of the welds attaching the fit lugs to Lift 1 West 13M Diaphragm on Skin Plates B and C and 13M Diaphragm to Skin Plates B and C per ZPMC NDT Notification Sheet 003428. The QA Inspector observed 3 areas which required grinding. ZPMC welding personnel re-worked those 3 areas during the VT Inspection. There appeared to be no indications after the re-work and the QA Inspector accepted the above listed welds.

The QA Inspector attempted to perform a 100% VT Inspection of the welds attaching the fit lugs to Lift 1 West 13M Diaphragm on Skin Plate C and 15M Diaphragm to Skin Plate C per ZPMC NDT Notification Sheet 003428. The QA Inspector observed 2 areas which required grinding and 1 area which required grinding and weld repair. The QA Inspector did not accept the above welds at this time.

The QA Inspector performed a 100% VT Inspection of the welds attaching a gusset stiffener to a longitudinal stiffener and Skin B in Lift 1 West between 15M Diaphragm and 18M Diaphragms per ZPMC NDT Notification Sheet 003428. The QA Inspector accepted the above listed welds.

The QA Inspector performed a 100% VT Inspection of the welds attaching a gusset stiffener to a longitudinal stiffener and Skin C in Lift 1 West between 13M Diaphragm and 15M Diaphragms per ZPMC NDT Notification Sheet 003428. The QA Inspector accepted the above listed welds.

The QA Inspector performed a 100% Visual Testing (VT) Inspection of the reworked welds attaching the fit lugs to Lift 1 West 15M Diaphragm on Skin Plates B and C and 15M Diaphragm to Skin Plates B and C per ZPMC NDT Notification Sheet 003428. There appeared to be no indications after the re-work and the QA Inspector accepted all the welds attaching the fit lugs to Lift 1 West 15M Diaphragm on Skin Plates B and C and 13M Diaphragm to Skin Plates B and C.

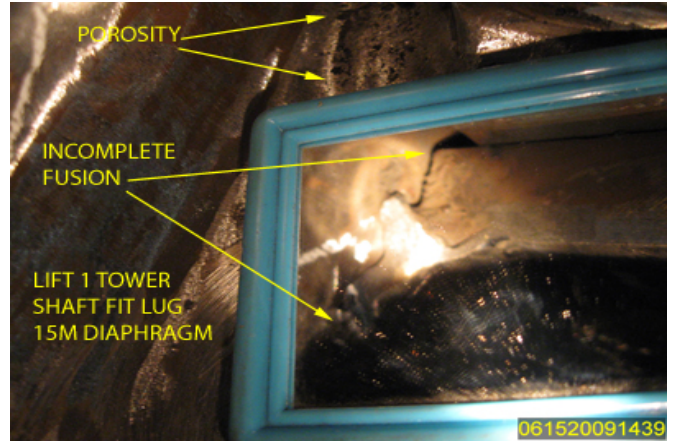
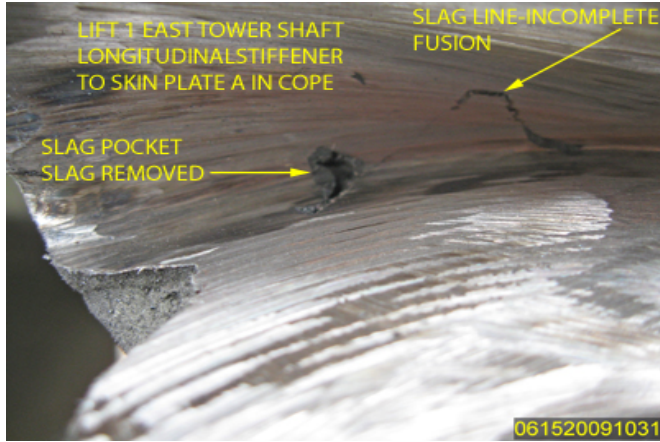
Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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### Summary of Conversations:

No relevant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Serge Sinevod 13482570045, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Franco,Charlie	Quality Assurance Inspector
<b>Reviewed By:</b>	Clifford,William	QA Reviewer

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